RESTRICTED CIRCULATION

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AGRICULTURAL MEMORANDUM NO. 547

Wilting first-cut silage in Lancashire and Yorkshire

by J B Tyldesley

BACKGROUND

In Lancashire and Yorkshire the first and main cut of grass for silage is best taken in the period mid-May to mid-June, when the crop is most nutritious. To do this in a region where many farms are entirely under grass imposes a high peak workload. The Regional Mechanisation Officer recommends farmers to wilt their cut grass in the field for a day before making silage. The objects are to:

a. Reduce weight and volume to cart from the field.

b. Get a better ferment, and therefore better quality, with less additives.

c. Reduce effluent.

However resistance is encountered among the farming community to the idea of wilting, particularly in upland areas, where farmers maintain that the risk of spoilage by rain is too great.

The Mechanisation people requested information on two-day dry spells. In addition to average numbers of dry spells, information on frequency distribution was required. It was specially desired to avoid giving advice that although good in the long run, might come badly unstuck in unfavourable years.

STATIONS USED AND PERIOD

Six stations which were considered representative of different areas of the region were used. Twenty years of record was examined in each case. For four stations a computer print-out for the period 1951-70 was used. The two Experimental Husbandry Farms did not begin records until 1953, and for them the original records for 1953-72 were extracted manually.

AREA	STATION	PERIOD	HEIGHT IN FT. ABOVE MSL
Lowland Lancashire	Morecambe	1951-70	23
West Pennines	Stonyhurst	1951-70	377
East Pennines	Harrogate	1951-70	550
Vale of York	Cawood	1953-72	20
Yorkshire Wolds	High Mowthorpe	1953-72	570
Holderness	Hull	1951-70	8

PICK-UP DAYS

The Mechanisation advisers speak of a "pick-up day", that is a dry day which has been preceded by another dry day. A dry day was taken as one with no measurable rain, ie less than 0.01 inch. It was accepted that occasionally a pick-up day might be rejected because of a light summer shower of no practical importance. It was felt that this would offset to some extent those damp and misty days when no measurable rain fell. This was the line taken by Gloyne and Armour in Ag. Mem. 530.

PROCEDURE

The number of pick-up days between 16 May and 15 June in each of the twenty years was extracted. Cumulative frequencies in the form "number of years with N or more pick-up days" were found. When plotted against N a somewhat humpy ogive was formed. Fig 1 is an example. A smooth curve was drawn by hand through the data, giving a useful measure of smoothing for the rather sparse extreme data. Frequencies attained 1 year in 4, 3 years in 4, and 19 years in 20 were read off the smooth curve.

RESULTS

FREQUENCY OF PICK-UP DAYS IN THE PERIOD MID-MAY TO MID-JUNE

STATION OR AREA	HEIGHT IN FT. ABOVE MSL	MEAN	HIGHEST	LOWEST	1 YEAR IN 4	3 YEARS IN 4	19 YEARS IN 20
Morecambe	23	14.3	21	7	19	11	8
Stonyhurst	377	12.3	23	5	17	9	6
Harrogate	550	13.8	23	6	18	11	7
Cawood	20	15.5	27	3	20	11	5
High Mowthorpe	570	13.4	25	4	16	11	6
Hull	8	15.0	22	7	19	12	8
Lowlands	8-23	14.9			19	12	8
Uplands	377-570	13.2			16	10	6

The lowland stations Morecambe, Cawood and Hull have slightly more pick-up days than the upland three, Stonyhurst, Harrogate and High Mowthorpe, as might be expected, but the differences are not great. Frequency distributions were prepared for the upland and lowland groups, and are shown in Fig. 2. The grouped results are included in the table above, and may be summarised verbally as follows. In an average year, nearly half the days in the period are pick-up days. The number varies a good deal from year to year, but 3 years in 4 at least a third of the days are pick-up days. 1 year in 4, more than a half of the days are pick-up days in the uplands, and nearly two-thirds in the lowlands. Only very rarely does the proportion of pick-up days in this period fall as low as a quarter.

APPLICATION

The results above will be useful for planning the amount of machinery necessary to conserve the grass at its most nutrition. It is not suggested that the statistics should be used in day-to-day operations. Forecasts of two-day dry spells in summer are quite reliable, and farmers should be encouraged to make full use of their local forecast office. The same advice could not be given so confidently for traditional hay-making over five days.

Meteorological Office
ADAS
Lawnswood
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LS16 5PY

April 1973

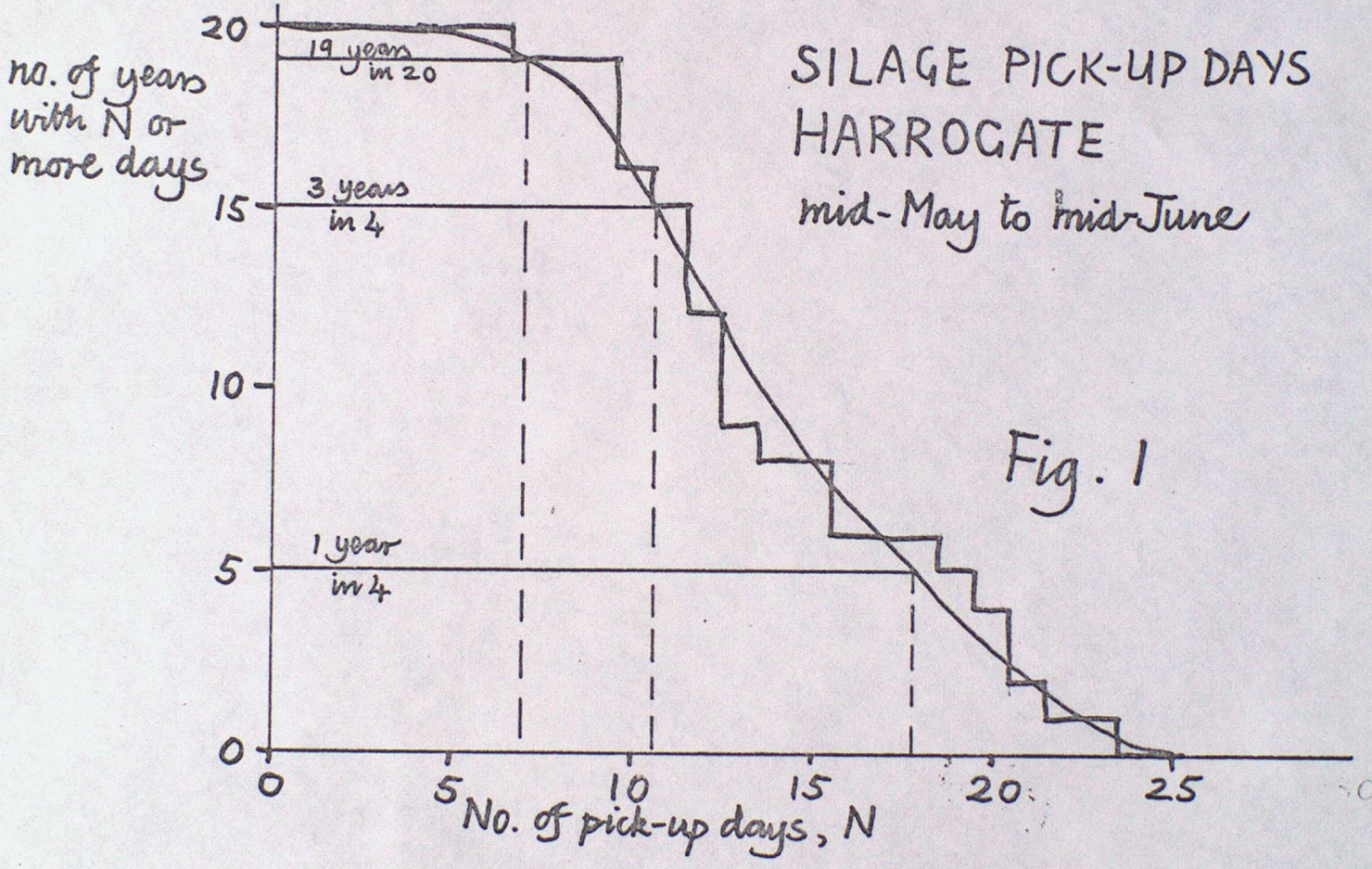
SILAGE PICK-UP DAYS
HARROGATE
mid-May to mid-June
no. of years with N or more days
20
15
10
5
0
19 years in 20
3 years in 4
1 year in 4
0
5
10
15
20
25
No. of pick-up days, N

Fig. 1

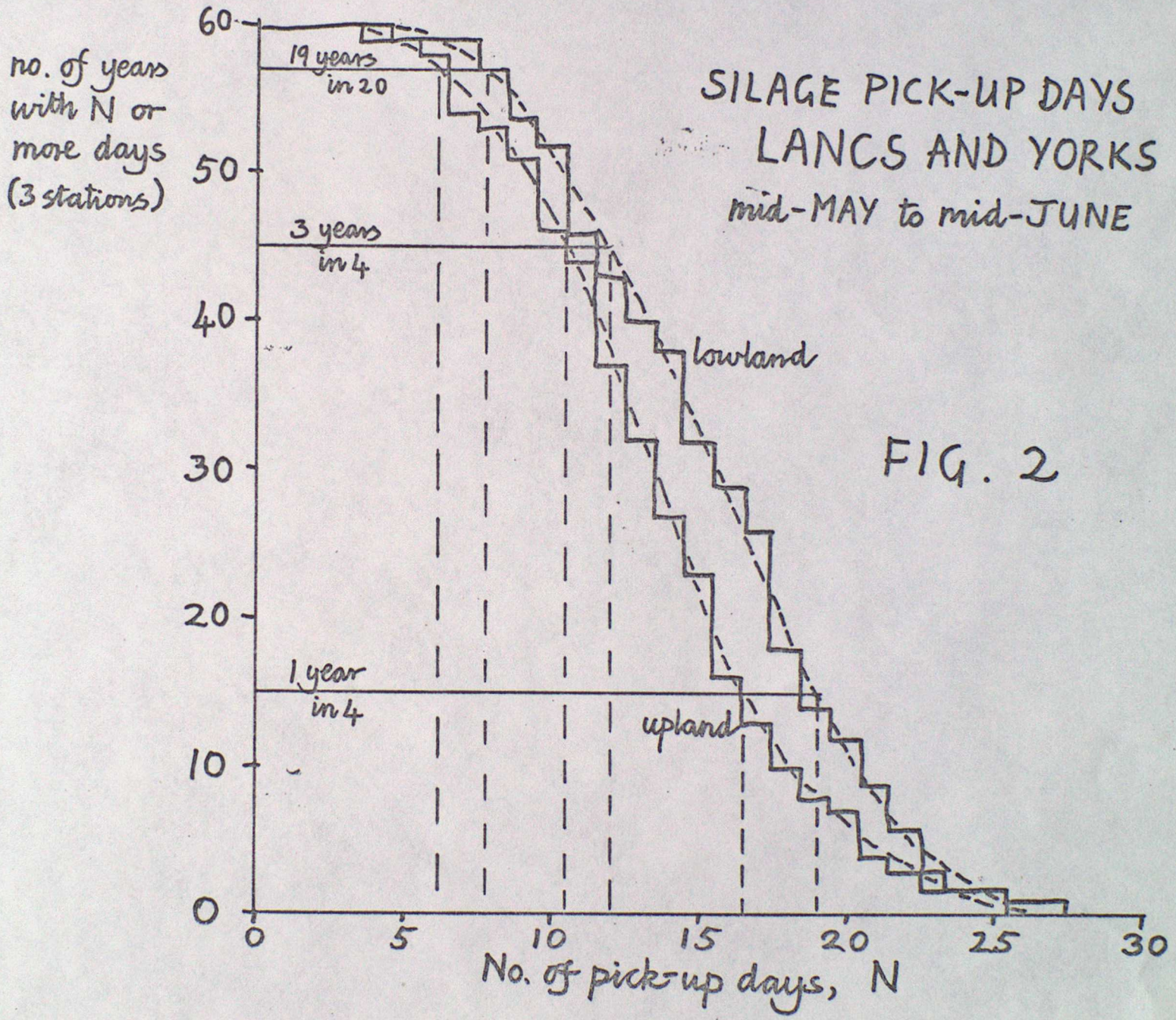
SILAGE PICK-UP DAYS
LANCS AND YORKS
mid-MAY to mid-JUNE
no. of years with N or more days (3 stations)
60
50
40
30
20
10
0
19 years in 20
3 years in 4
1 year in 4
lowland
upland
0
5
10
15
20
25
30
No. of pick-up days, N

FIG. 2